K.L.Yuryev (Ukraine)

International Conference on the Mental Health Consequences of the Chernobyl Disaster: Current State and Future Prospects - May 24-28, 1995 Kiev, Ukraine

CLINICAL AND NEUROPHYSIOLOGICAL CHARACTERISTIC OF THE BRAINSTEM FUNCTION IN CHERNOBYL NPP ACCIDENT CONSEQUENCES CLEANING UP PARTICIPANTS

K.L.Yuryev

Clinical neurological examination, investigation of brainstem auditory evoked potentials (BAEP) and Brain Mapping of EEG and evoked potentials were carried out in 66 Chernobyl NPP Accident Consequences Cleaning up Participants (ChNPP ACCP), irradiated in doses up to 140 cGy (main group). The results were compared with those of examinations of the control: 17 healthy individuals, 17 veterans of military operations with consequences of closed head injure, 17 veterans of military operations with PTSD and 10 patients with cerebro-vascular disorders. Brain stem dysfunction in the main group was manifested clinically in mild micro-organic symptoms. Decreasing of BAEP main components amplitudes, one of the components absence or their deformation were observed in 60 % of the main group patients; significant (higher than 2 standard deviation) prolongation of the peak latencies (PL) and interpeak latencies (IPL) - in 30 % of those patients. In the ChNPP ACCP the main components amplitudes were reliable decreased and PL were significantly prolonged in comparison with the healthy individuals. The ChNPP ACCP showed reliable prolongation of the IPL I-V and III-V of the BAEP in comparison with all control groups. The decreasing of the BAEP main components amplitudes and the prolongation of the PL and IPL correlated with the increasing of δ- and θ-spectra power and the decreasing of α-spectra power and its redistribution to the frontal areas. The pathology of BAEP correlated with clinical symptoms and the degree of nervous system pathology, age, time of working in the estrangement zone, dose. The correlation of BAEP parameters and dose has non-linear manner (coefficient of the correlation ratio η=0,8).

Scientific Centre for Radiation Medicine AMS of the Ukraine

Ukraine, Kiev